

Amendments to the Claims

Claims 1 and 2 (Canceled)

Claim 3 (Currently Amended) ~~A~~ The multiple decoding apparatus according to claim 1 for receiving a broadcasting signal composed of a plurality of encoded data and for simultaneously decoding two or more of the encoded data, the multiple decoding apparatus comprising:

_____ a reproduction controller for outputting control information related to decoding and reproduction of data;

_____ a data extractor for receiving the broadcasting signal and extracting at least audio data and video data which are designated by the control information;

_____ a buffer for storing at least the audio data and the video data extracted by said data extractor;

_____ a buffer manager for controlling said buffer in accordance with the control information for said buffer;

_____ a data flow controller for distributing at least the audio data and the video data stored in said buffer for each data type and transferring at least the audio data and the video data in accordance with provided transfer conditions;

_____ a plurality of separate buffers for respectively storing at least the audio data and the video data distributed and transferred by said data flow controller according to each data type;

_____ a separate buffer manager for controlling output of at least the audio data and the video data respectively stored in said plurality of separate buffers so as to be associated with each other in accordance with information for specifying said plurality of separate buffers;

_____ a plurality of decoders respectively corresponding to said plurality of separate buffers for decoding at least the audio data and the video data stored in said plurality of separate buffers and outputting two or more decoded data; and

_____ a decoding controller for selecting a separate buffer and a decoder, which are used for the decoding, according to a usage status of said decoder from among said plurality of separate buffers and said plurality of decoders in accordance with the control information, and outputting information related to said separate buffer selected by said decoding controller, the transfer conditions based on said separate buffer selected by said decoding controller, and an instruction

to start decoding, respectively, to said separate buffer manager, said data flow controller, and said decoder selected by said decoding controller, wherein

said separate buffer manager outputs, when a specific separate buffer becomes full of data, an overflow notification that said specific separate buffer overflows to said decoding controller,

said decoding controller outputs, upon receipt of the overflow notification that said specific separate buffer overflows, an instruction to stop data transfer to said specific separate buffer to said data flow controller, outputs an instruction to stop decoding to a decoder corresponding to said specific separate buffer, and outputs an instruction to initialize said specific separate buffer to said separate buffer manager,

said separate buffer manager initializes said specific separate buffer in accordance with the instruction to initialize said specific separate buffer from said decoding controller without initializing said buffer, and

the multiple decoding apparatus resumes all processing which was stopped as a result of said specific separate buffer becoming full after said specific separate buffer is initialized.

Claim 4 (Currently Amended) A ~~The~~ multiple decoding apparatus according to claim 1 for receiving a broadcasting signal composed of a plurality of encoded data and for simultaneously decoding two or more of the encoded data, the multiple decoding apparatus comprising:

a reproduction controller for outputting control information related to decoding and reproduction of data;

a data extractor for receiving the broadcasting signal and extracting at least audio data and video data which are designated by the control information;

a buffer for storing at least the audio data and the video data extracted by said data extractor;

a buffer manager for controlling said buffer in accordance with the control information for said buffer;

a data flow controller for distributing at least the audio data and the video data stored in said buffer for each data type and transferring at least the audio data and the video data in accordance with provided transfer conditions;

a plurality of separate buffers for respectively storing at least the audio data and the video data distributed and transferred by said data flow controller according to each data type;

a separate buffer manager for controlling output of at least the audio data and the video data respectively stored in said plurality of separate buffers so as to be associated with each other in accordance with information for specifying said plurality of separate buffers;

a plurality of decoders respectively corresponding to said plurality of separate buffers for decoding at least the audio data and the video data stored in said plurality of separate buffers and outputting two or more decoded data; and

a decoding controller for selecting a separate buffer and a decoder, which are used for the decoding, according to a usage status of said decoder from among said plurality of separate buffers and said plurality of decoders in accordance with the control information, and outputting information related to said separate buffer selected by said decoding controller, the transfer conditions based on said separate buffer selected by said decoding controller, and an instruction to start decoding, respectively, to said separate buffer manager, said data flow controller, and said decoder selected by said decoding controller, wherein

said separate buffer manager outputs, when a specific separate buffer becomes full of data, an overflow notification that said specific separate buffer overflows to said decoding controller,

said decoding controller outputs, upon receipt of the overflow notification that said specific separate buffer overflows, an instruction to discard encoded data directed toward said specific separate buffer to said data flow controller, outputs an instruction to stop decoding to a decoder corresponding to said specific separate buffer, and outputs an instruction to initialize said specific separate buffer to said separate buffer manager,

said separate buffer manager initializes said specific separate buffer in accordance with the instruction to initialize said specific separate buffer from said decoding controller without initializing said buffer, and

the multiple decoding apparatus resumes all processing which was stopped as a result of said specific separate buffer becoming full, and the discard of the encoded data is released after said specific separate buffer is initialized.

Claims 5 and 6 (Canceled)

Claim 7 (Currently Amended) ~~A The multiple decoding method according to claim 5, further comprising, for simultaneously decoding two or more encoded data from a broadcasting signal composed of a plurality of encoded data, the multiple decoding method comprising:~~

~~_____ selecting a plurality of decoders for performing decoding and a plurality of separate buffers corresponding to the plurality of decoders, respectively, according to usage status of the plurality of decoders;~~

~~_____ extracting at least audio data and video data to be decoded and reproduced from the broadcasting signal;~~

~~_____ storing at least the extracted audio data and video data in a buffer;~~

~~_____ distributing at least the audio data and the video data stored in the buffer for each data type and respectively storing at least the audio data and the video data in the plurality of separate buffers according to each data type;~~

~~_____ controlling output of at least the audio data and the video data stored in the separate buffers such that at least the audio data and the video data stored in the separate buffers are associated with each other; and~~

~~_____ decoding, responsive to said controlling, at least the audio data and the video data stored in the separate buffers and outputting two or more decoded data,~~

~~_____ wherein, when a specific separate buffer becomes full of data:~~

~~_____ stopping said distributing of at least the audio data and the video-encoded data into the specific separate buffer and said decoding of encoded data stored in the specific separate buffer;~~

~~_____ initializing the specific separate buffer without initializing the buffer; and~~

~~_____ resuming all processing which was stopped when the specific separate buffer became full after said initializing of the specific separate buffer.~~

Claim 8 (Currently Amended) ~~A The multiple decoding method according to claim 5, further comprising, for simultaneously decoding two or more encoded data from a broadcasting signal composed of a plurality of encoded data, the multiple decoding method comprising:~~

selecting a plurality of decoders for performing decoding and a plurality of separate buffers corresponding to the plurality of decoders, respectively, according to usage status of the plurality of decoders;

extracting at least audio data and video data to be decoded and reproduced from the broadcasting signal;

storing at least the extracted audio data and video data in a buffer;

distributing at least the audio data and the video data stored in the buffer for each data type and respectively storing at least the audio data and the video data in the plurality of separate buffers according to each data type;

controlling output of at least the audio data and the video data stored in the separate buffers such that at least the audio data and the video data stored in the separate buffers are associated with each other; and

decoding, responsive to said controlling, at least the audio data and the video data stored in the separate buffers and outputting two or more decoded data,

wherein, when a specific separate buffer becomes full of data:

discarding encoded data directed toward the specific separate buffer;

stopping said decoding of at least the audio data and the video-encoded data stored in the specific separate buffer;

initializing the specific separate buffer without initializing the buffer; and

resuming all processing which was stopped when the specific separate buffer became full after said initializing of the specific separate buffer, and releasing the discard of the encoded data.